Carbide Processors, Inc.

Northwest Research Institute, Inc.
Newsletter October, 2008
3847 S. Union Ave. Tacoma, WA. 98409 (800) 346-8274
sales@carbideprocessors.com www.carbideprocessors.com

President's Message

Sometimes Northern Folks Have Mothers to Teach Them Manners

Dear Emily:
I wanted to drop you a line to thank you for the CPI newsletters that keep faithfully coming all the way to the east coast. Everyone here enjoys the humor and I definitely enjoy the useful technical information.

Our company, Sawnet, since it's inception in 2005, has grown dramatically in the number of customers that rely on us to perform both as Saw Fill-In, Consulting, Training and as broker/sales of saw filing and sawmill needs.

We have enjoyed filling the needs of our customers with your products; carbide tips, flux, filters, etc.

You are the only ones that call me to see if the product was received by the customer and if everyone is happy!

Sawnet has always done the same, but we thought we were the only ones. Are you sure you all aren't from South Carolina too?!

Thanks again for great service!
Sincerely,

Jim Moody, Owner
SAWNET
Camden, S.C.
Tel: (803) 424-1794
Fax: (803) 424-1793
E-Mail: sawnetne@sawnet.net
www.sawnet.net

Saw Plate

Save Money
Get Better Plate

We proudly represent three of the best plate manufacturers in the country: All three make excellent plate.

If you want a quote on plate just call our rep, Cliff Gordon, in Oregon.
Phone 503-838-1688
Fax 503-838-1563
Toll free 800-707-5802
Email - cliffjanis@hotmail.com

One call gets you three quotes
Cliff Gordon sold for Vollmer then Cascade Southern and then California Saw and Knife. He knows a great deal about saw plate. He will tell you the truth about saw plate and help you get the right plate at the right price.

Save money on carbide
Both quality and low prices
A new line of carbide in European ISO grades (which we translate into USA "C" grades.) They are excellent quality, probably better than what you are buying now, but they are standard grades so the prices are excellent. (Available in both Standard and Economy grades.)

Your best buy in Carbide
Our long life saw tips. They braze and grind like carbide but runs 2, 3, even 5 times as along.

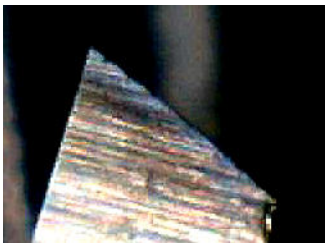
Be a Hero to Your Mill.
Call us and we will help you cut cots and eliminate downtime.

Cliff Gordon

Not just a Pretty Face

Analysis of a saw blade by Cliff Gordon

"The angles all look good and the kerf is even. There is the off color on the sides of the teeth at the very top on both sides. I believe the grinding wheels were not clean, they were using cheap wheels or grinding too heavy."



Review of Saw Plate by Cliff Gordon

22" x .095plate x #3 Retech Spline x 46Teeth x 46-48RC Steel 8660

Found the plate to be relatively flat and very acceptable. Thickness throughout the plate was .0015 to .0014 very good.

I Tensioned & Leveled this plate to run in a sawmill and found I had to put about 20% more force on stretcher roll to obtain the same results as in other steel. Bottom line is I find this plate to be very tough and it should hold up well in a sawing application.

Phone 503-838-1688
Fax 503-838-1563
Cliff toll free in Oregon 800-707-5802

Tip Loss and Breakage

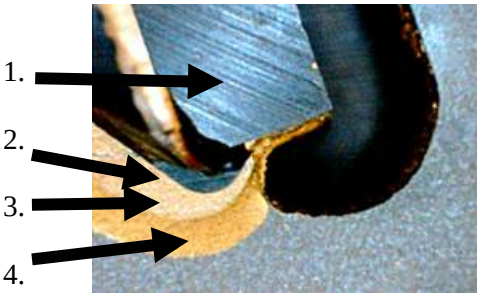
Executive Summary: It looks like a pretty good job all the way through. A few things came together to cause failure. It appears that the braze alloy and the carbide grade were good but not as good as modern materials. I don't think the notch was cleaned well enough. Laser cutting leaves carburization of a couple thousandths of an inch and this needs to be gummed out. I think the braze alloy got hot enough on each side of the joint but not hot enough in the middle. It appears there was not quite enough braze alloy in the joint and / or braze alloy was forced out of the joint.

Recommendations:
1. Better gumming of the notches
2. A little longer, slower heating cycle would help with more heat in the middle of the joint and at the top.
3. let the tip suck in. Get a copy of our video or watch it on line to see what this means.

I would really like to see a better braze alloy and a modern carbide grade used. C2 typically has a Transverse Rupture Strength of 300,000 psi or so. Cermet 2 sawmill grade has a strength of about 540,000 psi.

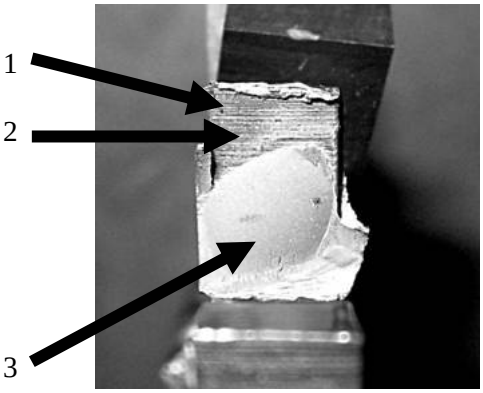
1. The braze alloy looks like a Bag -24 which is 50% cad free silver. This is a common braze alloy for low stress situations however it is a relatively weak alloy in terms of bond tensile strength.

2. The alloy stuck to the saw tip but I don't think it was thick enough.



1 is the carbide tip. 2 is the small piece of carbide left brazed to the plate. 3. is brazed alloy that may have been pushed out of the notch while only slightly melted. 4 is braze alloy that flowed nicely over the steel.

3. I don't think the notches were gummed well enough. The grind marks on the notches are finer than the grind marks on the shoulders so there may have been some grinding or sandblasting. In any case the braze alloy did not stick at all well to the steel.



1. grind marks on the plate. These appear to be finer than the marks on the shoulders. 2. The braze alloy did not stick to the steel. You can see a little color where the braze alloy separated and sort of washed over the grind marks. 3 The smooth, rounded curve of the broken carbide is classic heat stress.

It is important to clean the notches after gumming. Wiping with a solvent helps. Best is cleaning with a detergent, caustic solution or similar.

4. I am unsure about the heating. It almost looks as though the outside on each side may have been heated more than the center. Overall I think the heating cycle may have been too fast and ended too soon. You need to take the temperature up to about 50 F over the melting point. You need to heat the joint all the way through. When you drop an ice cube in boiling water it takes a few seconds for it to melt completely.

There are two kinds of braze alloy flow out of the notch. One the left of each tip below you can see the wetting on the steel. The steel is nice and clean. Right behind the tip is a bulge of braze alloy. As braze alloy melts it gets gummy before it melts. It sort of looks as though there was enough pressure on the tip to force gummy braze alloy out of the notch.

An Old Dog

An older, tired-looking dog wandered into my yard; I could tell from his collar and well-fed belly that he had a home and was well taken care of.

He calmly came over to me, I gave him a few pats on his head; he then followed me into my house, slowly walked down the hall, curled up in the corner and fell asleep.

An hour later, he went to the door, and I let him out.

The next day he was back, greeted me in my yard, walked inside and resumed his spot in the hall and again slept for about an hour. This continued off and on for several weeks.

Curious I pinned a note to his collar: 'I would like to find out who the owner of this wonderful sweet dog is and ask if you are aware that almost every afternoon your dog comes to my house for a nap.'

The next day he arrived for his nap, with a different note pinned to his collar: 'He lives in a home with 6 children, 2 under the age of 3 - he's trying to catch up on his sleep. Can I come with him tomorrow?'

Dylos Air Quality Monitor

7 ½" high, 5' wide at the base and 3 ½' deep but it needs space behind it for the fan intake

This is a great little meter for about $150.00. It counts airborne particles of any kind. In order to keep costs down it only counts two sizes such as 0.5 microns and 5 microns. However this actually gives a good indication of total air quality.

This unit was invented by an engineer who had worked in "clean rooms" where they count every particle of any size. He wanted to develop an inexpensive unit that would be suitable for industry and home use. It appears he succeeded very well. The unit is simple, rugged, has a memory, several options and affordable.

The only problem is that no one is really sure what clean air is. As I sit at my desk writing this my count is about 650 which ii at the good end of the fair range (600 – 1050). Very roughly this translates into about 0.01 milligram per cubic meter. The OSHA limit (see chart) is 15 mg / m^3 as an 8 hour, time – weighted average.

There are several problems with the OSHA limits. First, if you filled your lungs with water for 5 minutes you would drown and die but you would be safe if you averaged the volume of water over 8 hours. So you would be both safe and dead. OSHA set the maximum exposure limit for wood dust at 15 mg /m3 but it was rejected by the courts. Second, that is a very high limit for any exposure. It is high enough to be uncomfortable and high enough to increase fire danger. Third, different people have different tolerances for exposure. Personally, I keep my shop much cleaner than the law requires because I have seen too many people with severe lung problems caused by industrial exposure.

Translating Dylos meter readings into milligrams per cubic meter.

1 micron reading	mg /m3
>1000	0.01
350-1000	0.0035
100-350	0.001
50-100	0.0005
25-50	0.00025
0-25	0.00025

This is extremely imprecise. Actual values may be several times higher or lower. The only reason we use this is that it is the best there is.

8 hour time weighted exposure limits

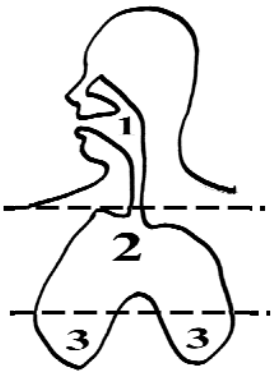
15 mg/m3	OSHA all dust
5 mg/m3	OSHA inhalable dust
1 mg/m3	NIOSH limits
0.5 mg/m3	ACGIH Western Red Cedar

(Value for western red cedar based on its asthma effects. Certain species of hardwood—such as oak, mahogany, beech, walnut, birch, elm, and ash—have been reported to cause nasal cancer in woodworkers. This is particularly true when exposures are high.)

OSHA and other values are set on dust collected over an eight hour period. OSHA does make a distinction between all dust and "respirable" dust. "Respirable dust is airborne dust in sizes capable of passing through the upper respiratory system to reach the lower lung passages."

Respiratory Tract zones

1 – Upper (5 to 30 microns) - filtered by nasal hairs and sneezing
2 – Middle (1 to 30 microns) - there is a mucocillary escalator to move particles up and out. The cells here have hair like projections and they move particles from one cell to another.
3 – Lower (under 1 micron) – Dissolution or uptake by the vascular system with subsequent engulfment by macrophages. The macrophages move the material to zone to 2 to be cleared out of the lungs.



OSHA Wood Dust Limits

Potential Hazards: http://www.osha.gov/SLTC/etools/woodworking/production_wooddust.html

Both the skin and respiratory system can become sensitized to wood dust. When a worker becomes sensitized to wood dust, he or she can suffer severe allergic reactions (such as asthma or dermatitis) after repeated exposure or exposure to lower concentrations of the dust.

Other common symptoms associated with wood dust exposure include skin and eye irritation; nasal dryness and obstruction; and prolonged colds.

New Nail Gun, made by Dewalt. It can drive a 16-D nail through a 2 X 4 at 200 yards.

This makes construction a breeze. You can sit in your lawn chair and build a fence.

Just get the wife and kids to hold the fence boards in place while you sit back and relax with a cold drink. When they have the board in the right place just fire away.

With the hundred round magazine you can build the fence with a minimum of reloading.

After a day of fence building with the new Dewalt Rapid fire nail gun, the wife will never ask you to fix or build anything else.

Super "C" Carbide Grade

Tougher than C1 - Better wear than C3

What Makes Super C Tips Truly Superior

1. Superior Abrasion Resistance - Abrasion or straight wear is countered by smaller, better grain size.

2 & 3. Superior Adhesion and Diffusion Resistance (corrosion and chemical attack) Super C grade of carbide has an extremely fine structure so there is very little binder presented to the material being cut. This, combined with the special metallurgical formulation the Super C binder (hint - it's not just plain Cobalt) creates an extremely wear and corrosion material for use in wood, plastic or non-ferrous metals.

4. Superior Fatigue Resistance

And People Really Like Them - Call Today To Try Them – Most Sizes Readily Available

Super C	Hardness (HRA)	T.R.S. (psi)
	92.2 – 92.4	530,000 +

Typical C2 values

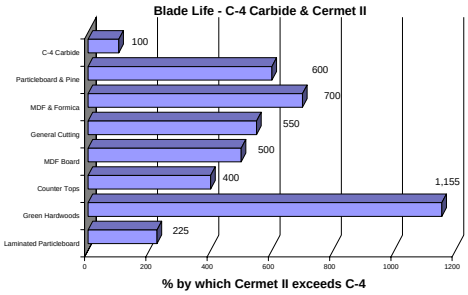
	Hardness (HRA)	T.R.S. (psi)
C2	92.1	334,000
C2	91.8	334,000
C2	91.5	377,000
C2	90.4	435,000

Typical C Values

	Hardness	T.R.S. (psi)
C1	89 - 92.4	350,000 - 360,000
C2	91.2 - 92.9	250,000 - 400,000
C3	91.4 - 93.6	270,000 - 350,000
C4	89.6 – 93	260,000 - 450,000

Sawmill Grade Tips

- Transverse rupture strength well above 500,000 psi.
- Rockwell A hardness above 92
- Alloy binder for corrosion resistance
- Grain structure to inhibit both crack initiation and crack propagation
- Micro grain or mixed grain for superior wear



Cermet II® 8 days instead of 5 in MDF

Three weeks and three full loads of double side melamine laminate instead of 1 week and 1 load with carbide

1. 5 blades with standard C-4 carbide cutting 45 lb. single and double sided vinyl-laminated particle board
* Cermet II - 15,088 meters / old grade - 6706 meters **225% as much run life**

2. KM-16 industrial saw cutting 101.6 mm x 152.4 mm (4" x 6") Green hardwoods, oak, hickory, maple and walnut using 11 blades with standard C-4 carbide
*Cermet II / 462 hrs / old grade - 40 hrs
1,155% as much run life

3. 406 mm (16") 100 teeth cutting countertops
* Cermet II - 4 weeks / old grade - 1 week (4 times) **400% as much run life**

4. 406 mm (16") 80 teeth cutting MDF Board
* Cermet II - 10 days / old grade - 2 days (5 times) **500% as much run life**

5. 305 mm (12") 100 teeth TCG Miter cutting oak, Compressed Fiber Board, Plastic
* Cermet II - 154 hrs / old grade - 28 hrs (5.5 times) **550% as much run life**

6. 305 mm (12") 60 teeth cutting MDF, High Pressure Laminate (Formica)
* Cermet II - 56 hrs / old grade - 8 hrs (7 times) **700% as much run life**

7. G 1060A on Chop Saw cutting Particle Board and Pine Dowel Rods
* Cermet II - 48 hrs / old grade - 8 hrs (6 times) **600% as much run life**

Use Cermet 2 instead of carbide and make your life much easier

Cermet II© Successes

Several times the life in a window and door plant.

3 times the life in Corian.

8 days instead of 5 in MDF and we have an even better grade coming.

Twice the life in beetle killed Lodge Pole pine.

Benefits You Get

* Grinds like regular carbide
* Gives a better edge than carbide
* Stays sharper longer than carbide
* Great increase in fracture toughness.
* More corrosion-resistant
* Better at high temperatures
* Cuts faster
* Cuts faster & longer yet is tougher
* Longer runs and less downtime.

Report from Marvin Windows

On the saw that we tried. How many times we resharpen a blade before we order new or have retipped we are not sure. Most blades get damaged by hitting something so we have the carbides retipped a lot. How often do regular blades have to be resharpened? We normally have our carbide tipped blades sharpened every week.

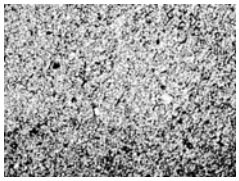
The new Cement II blade normally last twice as long before it gets damaged. The best so far is four weeks and one and a half million cuts before we changed it out which is four times longer.

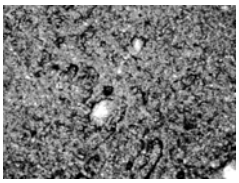
Hope this helps and keep up the good work on those tips.
Nathan Hull, Grinderman
Marvin Wood Products

Purified Flux

30% To 100% Better Braze Joints
(50x magnification)

Purified flux
Smooth & consistent





Standard flux
Large grains of foreign material

You can see and feel the difference immediately.

Purified flux is black flux that has had extra processing steps. These processing steps take the black article out and leave the flux a rich, creamy brown color. If you take a little of each flux and rub it between your fingers you can feel that Purified Flux is not only smoother but the particles are smaller and there are no extra large particles.

Flux is made to prevent oxygen from getting to the parts as they are heated. Steel and especially tungsten carbide oxidize at room temperature. The hotter they get the more they oxidize. Above 1,000 F tungsten carbide oxidizes extremely rapidly and forms an unbrazeable surface. Purified flux is good for more time at higher temperatures, up to 1,700 F.

The original idea with flux was that it was to be applied on top of the braze area. However the critical part of saw and tool brazing is what goes on inside the braze joint. Ordinary flux is inexpensively made and has up to 10% odd size particles and non-active minerals in it. These odd size particles and non-active minerals get lodged in the braze area and can seriously effect the strength of the braze joint.

Purified flux is cleaner, smoother, creamier and much more effective.

5 # jars
Case (6 jars @ 5#) $ 464.31
Single jar $ 87.39

Braze Alloys (Silver Solders)

The right braze alloy can make a huge difference in performance

Braze Alloy Impact & Bond Strength Tests	
High Impact	**100%**
S50N - 50% Silver with Cadmium	100%
A50N - 50% Silver - Cadmium free	75%
A56T - 56% Silver with Tin	0%
S50N - 50% Silver with Cadmium	100%
A50N - 50% Silver - Cadmium free	64%
A50N with copper spheres added	67%

Stop tip Loss - Prevent Carbide Breakage

Saw tips are brazed onto a steel saw using braze alloy. When a tungsten carbide saw tip breaks it is usually bad carbide, the wrong grade of carbide, the wrong braze alloy or a combination of these.

The brazing process forms a three part composite. The success of the composite depends on the tungsten carbide, the steel, the braze alloy and the way it is all put together. The braze alloy has to do three things. l. It has to keep the tip on the saw. 2. It has to cushion the tip because the tip suffers a lot of impact stress when the saw cuts. 3. It has to compensate for the difference in expansion between steel and tungsten carbide as they are heated and cooled during brazing.

Buy Our Books

Buy online or call 800 346-8274

1. Carbide Saw Specification Manual
http://www.cafepress.com/sawspecs.80466877

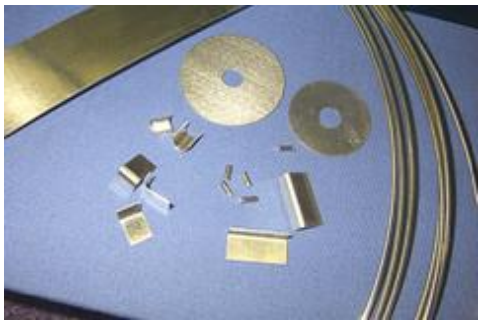
2. Carbide Saw Manual - Lowell freeborn
http://www.cafepress.com/freebornmanual.80464996

3. Managing Coolants from Machining and Grinding Operations
http://www.cafepress.com/managecoolants.80458178

4. Building Superior Brazed Tools
http://www.cafepress.com/superiortools.93943435

5. Chisels on a Wheel by Jim Effner
http://www.cafepress.com/chisels.90813670

6. Braze Failure Analysis
http://www.cafepress.com/brazefailure.79434854



We sell braze alloys (also called silver solders, high temperature silver solders, or braze filler metals.)

We supply the finest information in the world on the selection and use of braze alloys for carbide brazing.

The Finest, Most Consistent Braze Alloys For Tungsten Carbide

- 26 Different braze Alloys
- All AWS approved
- All inspected to parts per million
- All alloys exceed AWS specifications
- Cadmium free
- With Cadmium
- Hi Impact – developed for Weyerhaeuser
- Ultra Hi Strength – High Temp.
- Low Silver – Very High Strength
- Low Temp. with high strength
- Wire – all diameters
- Ribbon - all sizes
- Sandwich alloy ribbon
- Brazing preforms

Why Quality Makes A Difference
(American Welding Society AWS 5.8)
Braze alloy can be within AWS specifications but it can vary in brazing temperature by as much as twenty degrees. This means that you can have cold joints and tip one end or zinc loss and more broken tungsten carbide tips at the other end.

Our braze alloy is accurate and measured within parts per million. It is typically four times better than it has to be or more according to government certified analysis. It brazes the same way every time.

Filtering Straight Oil Coolants

We now have a filter system that filters straight oil coolants. Above is our CP 2020 which filters tight oil coolant very well. It is also available as a wall mount unit.

Here is our CP 2002, which has been an extremely good unit on water based coolants for about eight years.

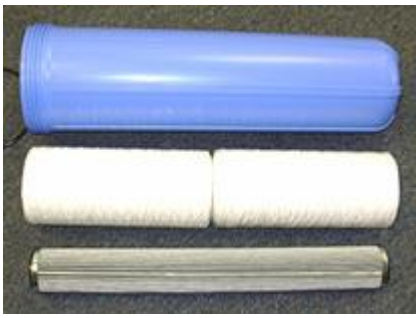
We have tried it on straight oil with very poor results. It filtered for maybe an hour before it plugged up.

Oil is much thicker than water. The filters were good enough to filter the oil for awhile but, as soon as they started to a load up with dirt, the oil was too thick to get though.

Here are the two units side by side.

A filter is a series of holes that separates particles from liquid.
Oil is thicker than water so it is harder to filter out small particles.
In addition oil transfers the pressure from the pump directly to the filter and is much more likely to collapse a filter element.

The secret is a high-tech filter. This is stainless steel inside and outside to handle the pressure. It is smaller than our water filters and has a pleated surface to provide sensational filter surface area at the high pressures oil creates.



We recommend monthly filter changes but many go much longer than that.

Great Filter Units

For Straight oil, Synthetic and Water - based coolants.

Really popular – We're selling a bunch of them

Great prices, pay for themselves readily, cleaner shops, less labor and longer diamond wheel life with better, faster grinds.

Now accepting Visa & MasterCard
Call Us at 800 346-8274 or
Equipment Ltd at 800-533-2006

Coolant filter Life

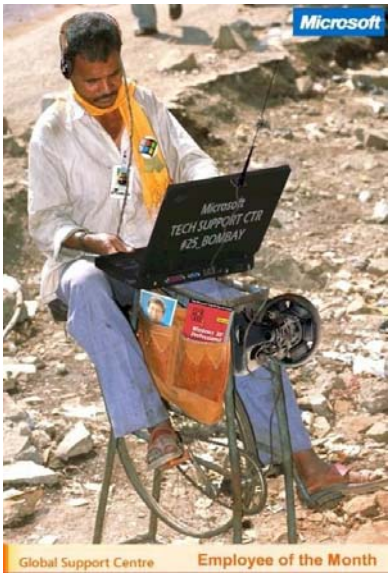
We recommend a filter change after one month in use on a single machine which is about 160 hours of use. In our tests we have seen them go 21 days of 20 hour shifts, which is 420 hours. Many folks get 2 or 3 months out of the filters which is 320 to 480machine hours.

The rating is based on the amount of sludge generated by the machine in an hour. If you run a machine 40 hours and filter one hour then you remove all the sludge from the 40 hours of running.

If you are running 11 machines then you are getting 440 hours life out of the filters in a week.

Two things can happen. 1. If filters are run too long they can load up and releases over and over so they don't do any good past a certain point. It looks like they are working, however. This is like pouring fifty gallons of water in a five gallon bucket. It works because when you are though the 50 gallon drum is empty and the bucket is full. You just ignore the water on the ground. 2. After a long enough time there will be a lot of sub-micron particles in the coolant and this can give it a gray color.

Tech Support Hiring



Mujibar was trying to get a job in India. The Personnel Manager said, 'Mujibar, you have passed all the tests, except one. Unless you pass it, you cannot qualify for this job.'

Mujibar said, 'I am ready.'

The manager said, 'Make a sentence using the words Yellow, Pink and Green.'

Mujibar thought for a few minutes and said, 'Mister manager, I am ready'

The manager said, 'Go ahead...'

Mujibar said, 'The telephone goes green, green, and I pink it up, and say,'Yellow' , this is Mujibar.'

Mujibar now works at a call center.

Really good (horrible) puns from Mike west

1. The roundest knight at King Arthur's round table was Sir Cumference. He acquired his size from too much pi.
2. I thought I saw an eye doctor on an Alaskan island, but it turned out to be an optical Aleutian.
3. She was only a whisky maker, but he loved her still.
4. A rubber band pistol was confiscated from algebra class because it was a weapon of math disruption.
5. The butcher backed into the meat grinder and got a little behind in his work.
6. No matter how much you push the envelope, it'll still be stationery.
7. A dog gave birth to puppies near the road and was cited for littering.
8. A grenade thrown into a kitchen in France would result in Linoleum Blownapart.
9. Two silk worms had a race. They ended up in a tie.
10. Time flies like an arrow. Fruit flies like a banana.
11. A hole has been found in the nudist camp wall. The police are looking into it.
12. Atheism is a non-prophet organization.
13. Two hats were hanging on a hat rack in the hallway. One hat said to the other, 'You stay here, I'll go on a head.'
14. I wondered why the baseball kept getting bigger. Then it hit me.
15. A sign on the lawn at a drug rehab center said: 'Keep off the Grass.'
16. A small boy swallowed some coins and was taken to a hospital. When his grandmother telephoned to ask how he was, a nurse said, 'No change yet.'
17. A chicken crossing the road is poultry in motion.
18. It's not that the man did not know how to juggle, he just didn't have the balls to do it.
19. The short fortune-teller who escaped from prison was a small medium at large.
20. The man who survived mustard gas and pepper spray is now a seasoned veteran.
21. A backward poet writes inverse.

22. In democracy it's your vote that counts. In feudalism it's your count that votes.
23. When cannibals ate a missionary, they got a taste of religion.
24. Don't join dangerous cults: Practice safe sects!

Hammerman

A DARK AND STORMY NIGHT

Dave Garrett

They were together
in the House.

Just the two of them.

It was a cold, dark, stormy night.

The storm had come quickly and each time the thunder boomed he watched her jump.

She looked across the room and admired his strong appearance….

.and wished that he would take her in his arms, comfort her and protect her from the storm.

Suddenly, with a pop, the power went out...

She screamed...

He raced to the sofa where she was cowering.

He didn't hesitate to pull her into his arms.

He knew this was a forbidden union and expected her to pull back.

He was surprised when she didn't resist but instead clung to him. The storm raged on...

They knew it was wrong...

Their families would never understand...

So consumed were they in their **FEAR** that they heard no opening of doors...

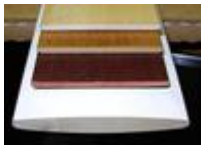
just the faint click of a camera.....

Carbide Processors, Inc.
Northwest Research Institute, Inc.
3847 S. Union Ave.
Tacoma, WA. 98409

More Money for Mills, Shops and Plants

(and less work, which is the same thing)

Buy fewer saws and less carbide



Ceramic Tipped Saw Blades that last 2, 3 even 5 times as long with beautiful cuts. Also available as just saw tips in our Super C and Cermet 2 grades. Brazes and grinds just like carbide

Cut coolant costs by 2 / 3rds or more.

This is a wall mount unit for filtering straight oil used in carbide grinders. With a 30 gallon sump and monthly changes it pays for itself in about 2 to 3 months. It typically extends coolant life from 3 to 6 months. Call for information. **800 346-8274**
Sales@carbideprocessors.com

Advanced Carbide Grades

1. Zero Tip Loss
2. Zero Tip Breakage
3. Run Longer Than Stellite®
4. Run Longer than Carbide
5. Longer Time Between Retips
6. Easy Brazing
7. Longer wheel Life
8. Faster Sharpening
9. Higher Grade Lumber
10. More Accurate cutting
11. Faster Cutting
12. Use Fewer Amps
13. Fewer unscheduled saw changes

Get Cash for Scrap

We are regularly mailing checks for over $1,000 and as much as $3,000. You can ship a lot of scrap for $8.95 in a US Postal Service flat rate box.

If You Make or Service Tools We Can Improve Your Sales

Our advanced grades of saw tips are very popular with end users. We are proud of the fact that we are helping many shops around the country stay really busy even in bad times.

Some folks ask why they should sell saw blades that last longer when they make their money sharpening.

Other folks grab the idea and head out to talk to the big customers that never had time for them.

If you build saws we can sell you tips. If you just want to sell saw blades we can help you there as well.